# Maternal Reports of Child Health Status and Health Conditions: The Influence of Self-Reported Maternal Health Status

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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### **A**BSTRACT

**OBJECTIVE:** The aim of this study was to examine the influence of maternal health status (MHS) on the relationship between child health conditions and child health status (CHS). **METHODS:** The study sample included 38 207 children aged 5 to 17 years in the 2001 to 2008 National Health Interview Surveys whose mothers were the survey respondent for the child and herself. Information was collected about CHS, MHS, diagnosed child health conditions, and sociodemographic characteristics. Responses to a question on general health status were used to rate CHS and MHS as "better" (excellent/very good health) or "worse" (good/fair/poor health). The percentage of children with worse CHS, adjusted for sociodemographic characteristics, was estimated using logistic regression.

**RESULTS:** Adjusting for child and family sociodemographic characteristics had a negligible effect on the association between CHS and a 4-level variable that classified children by both MHS and child health conditions. The adjusted

percentage of children with worse CHS was higher among children whose mothers had worse MHS compared with children whose mothers had better MHS. Moreover, among children whose mothers had worse MHS, there was a weak relationship between child health conditions and worse CHS. Among children whose mothers had better MHS, there was a strong relationship between child health conditions and worse CHS.

**CONCLUSION:** Because mother-reported CHS is used widely in epidemiological studies as a measure of a child's actual state of health, it is important to consider how maternal characteristics may influence a mother's report of a child's status. In particular, CHS reported by mothers with worse health status merits further investigation.

**KEYWORDS:** child health conditions; child health status; maternal health status

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## WHAT'S NEW

This study finds a strong association between mothers' subjective assessments of their own health and assessments of their children's health that is independent of reported child health conditions, suggesting a potential bias in maternal reports of child health status.

MOTHERS ARE FREQUENTLY selected as the proxy respondent for children in health surveys because they are identified as the adult in the household who is most knowledgeable about the child's past and present state of health. <sup>1–3</sup> Mothers are also assumed to be informants who can reliably report on other characteristics of the child and family. In surveys, mothers are asked many objective questions about a child's health, such as questions about diagnosed child health conditions, use of particular health care services, and presence of specific symptoms. <sup>4</sup> Additionally, mothers are often asked subjective questions about a child's health. Often these questions require a mother to make assessments and judgments about the child's health. A widely used subjective health measure included in surveys of both children and adults is "general health

status." It is based on responses to the following question: "Would you say [your/your child's] health is, in general, excellent, very good, good, fair, or poor?" 5

Among adults, general health status has been extensively studied as a measure of health.<sup>6–8</sup> Multiple studies have demonstrated the concurrent and predictive validity of this measure for adults. Not only do older adults who report fair or poor health more often report chronic and severe health conditions, longitudinal investigations have also shown that these adults experience higher rates of subsequent morbidity and mortality. US studies have shown that poor and less well-educated older adults, compared with more advantaged older adults, more often report fair or poor health status. Several recent investigations, however, have shown that the health status reports of more advantaged older adults may be a better indicator of biologic markers of disease and subsequent mortality than the reports of less advantaged adults.<sup>9,10</sup>

In contrast to the literature on adult health status, few studies have related maternal reports of child health status (CHS) to the subsequent health of children. Numerous cross-sectional studies, however, have shown that children whose mothers rate the child's health as either fair or poor

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more often have chronic health conditions, <sup>13,14</sup> have special health care needs, <sup>15</sup> use more health care services, <sup>16</sup> and live in economically and socially disadvantaged families than children whose mothers rate the child's health as good, very good, or excellent. <sup>17</sup> More recent studies have generally shown that these relationships also hold for children whose mothers rate the child's health by using a less restrictive definition of worse child health (including the responses of "good," "fair," or "poor" health). <sup>18–21</sup> Finally, worse CHS has been shown to be reported more often by mothers who also rate their own health status negatively. <sup>5,22–24</sup> The relationship between CHS and maternal health status (MHS) has often been interpreted as a consequence of the environmental and genetic risk factors shared by mothers and their children.

The current study builds upon the findings of previous research and focuses on the inter-relationships among the mother's report of her child's health status, her child's health conditions, and a mother's self-report of her own health status. As shown by our conceptual framework outlined in Figure 1, both shared and unshared environmental and genetic factors influence the health conditions of children and their mothers. In turn, a mother's report of her child's health status is influenced by the child's health conditions and the mother's ability to accurately perceive and report her child's health status. The framework also suggests that the mother's health conditions may impact her ability to rate her child's health objectively. Additionally, the health conditions of mothers and children may be causally linked.

The impact of maternal mental health conditions on the mental health of children has been studied extensively. Several investigations have examined the significant association between maternal and child mental health and tried to determine the extent to which the association is due to real impact of maternal mental health conditions on child mental health and the extent to which it is a reflection of biases in the mother's reporting of child behavior problems. The results of these studies have been mixed, but several have supported the hypothesis that maternal depression may distort the way in which mothers perceive

and evaluate child behavior.<sup>25–28</sup> More recently several studies of proxy-reported CHS and health-related quality of life have shown an association between maternal distress and maternal ratings of child health.<sup>29,30</sup>

Our investigation examines the influence of maternal health on child health by exploring the influence of MHS on a mother's report of her child's diagnosed health conditions and her child's health status. Based on our assumption that maternal mental and physical health conditions, as well as possibly a broader set of mental states and personality traits, may influence a mother's ability to rate her own and her child's health status accurately, we expect to find a weaker association between diagnosed child health conditions and worse CHS among children whose mothers rate their own health status negatively compared with children of mothers who rate their own health status more positively.

#### METHODS

#### DATA SOURCE AND STUDY POPULATION

The findings from the main analysis are based on questions from the Family Core and the Sample Child Core components of the 2001 to 2008 National Health Interview Surveys (NHIS; http://www.cdc.gov/nchs/nhis/nhis\_questionnaires. htm). NHIS is an ongoing national survey that uses household interviews to collect data on the health and demographic characteristics of all household members. The survey obtains additional detailed health-related information for one randomly selected child (sample child) in each family that includes children aged 0 to 17 years. Information about children is collected from an adult, usually the child's mother, who is knowledgeable about the child's health. The final response rates for 2001 to 2008 ranged from 72% to 81% for the sample child.

Of the 59 627 sample children aged 5 to 17 in the 2001 to 2008 NHIS who lived with their mothers, 18 831 were excluded because their mother was not the respondent for the family and sample child questionnaires. Additionally, 2589 children were excluded from the analytic sample

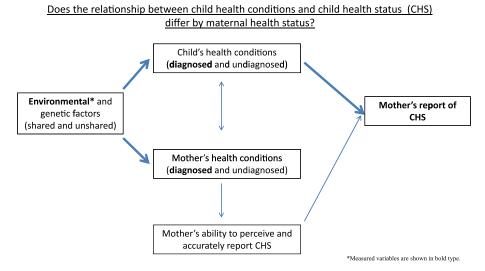


Figure 1. Factors influencing maternal reports of child health status.

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